



A Study on Mental Health Profile and Emotional Maturity in Relation to Nutritional Status of Post-Graduate Students

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ABSTRACT : There are concerns about the rates of depression, stress and other psychiatric symptoms among university students along with the unhealthy patterns of food consumption resulting either malnutrition or obesity. This study was aimed to determine the nutritional status, mental health and emotional maturity among 120 post graduate students of Sambalpur University, Odisha. The mean weight, height and BMI were found to be 51.96 kg (± 7.9893), 1.5671 mts (± 0.0617) and 21.142 (± 3.2536), respectively. 25 per cent of the respondents showed poor mental health. Significant association was found between BMI and Mental health stats at $p < 0.05$ level.

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KEY WORDS :

Nutritional status,
Mental health,
Emotional maturity,
Youth

Youth, in all ages, has been in the vanguard of process and social changes. Youth is a period of transition when the individual changes physically and psychologically from child to an adult and the incidence of dietary inadequacy is highest during this period than at any other stage of life cycle [1]. Prolonged deficiencies may lead to malnutrition which affects the intellectual development of adolescents and may influence learning and intellectual development with behavioural changes and other abnormalities [2].

Mental health :

Hagquist *et al.* indicated that the general mental health of youth during the period of adolescence appears to have deteriorated [3]. Stress and other mental health challenges

pose a major problem for many undergraduate and graduate college students and both their health and academic performance are affected negatively [4]. The prevalence and severity of mental health challenges are increasing in the college student population [5]. Poor mental health can impact college campuses in a variety of ways, including student health outcomes, academic performance, and student retention and graduation rates [4].

Youths with mental problems, such as depression, are more likely to engage in health risks. The study conducted by Knopf *et al.* suggested that 20-25 per cent of youth have symptoms of emotional distress and about one in ten has moderate to severe symptomatology, indicating significant impairment [6].

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Emotional maturity :

In the present circumstances, youths as well as children are facing various difficulties in sphere of life leading to many psycho-somatic problems such as anxiety, tension, frustration and emotional upsets in day to day life. Emotional maturity is not only the effective determinant of personality pattern but it also helps to control the growth of adolescent development. In general, higher the emotional intelligence higher is the organisational citizenship behaviour [7].

The period of youth is a very fluctuating period as it involves rapid developmental and transition and is full of complexities. The emotional moulding occurs quite often in this period. The poor mental health and emotional maturity may have negative influence on the personality development of the youths. A poor mental health also has direct and indirect adverse effects on health, and one way stress may affect health is by influencing the foods people select to eat [8]. At the general population level, there seems to be a collective effect of diet on mood [9].

RESEARCH METHODOLOGY**Objective:**

This study was aimed to determine the nutritional status, mental health and emotional maturity among the post graduate students of Sambalpur University, Odisha. The objectives were

- To assess the nutritional status of the respondents.
- To measure the level of emotional maturity and its various dimensions of the respondents by using Singh and Bhargava (1971) emotional maturity scale.
- To observe the mental health condition of the respondents through mental health check-list.
- To explore the inter-relationship between mental health, emotional maturity and nutritional status of the sample respondents.

Research design:

Hundred and twenty post graduate students from the 21 Departments of Sambalpur University were selected randomly as the respondents for the study. Age of the subject was considered to the nearest whole number.

Data collection :

A structured interview schedule was used for the

collection of data which was tested by pilot survey for the collection of data.

The anthropometric measurements:

Height of the respondents was measured while the subject was standing without foot wear, to the nearest 0.1 cm, using a portable Anthropometry rod. Weight was measured with the subject standing and wearing light clothes using a portable electronic weight machine. The formula for Body Mass Index (BMI) prescribed by WHO, weight (kg)/ height (m²) was used to calculate Body Mass Index (BMI) and international cut-off for BMI was used for classification of subjects as malnourished/ malnutrition (BMI below 18.0 kg/m²), normal 18<BMI> 25kg/m²), over weight (25 <BMI<30 kg/m²) and obesity (BMI>30kg/m²) [10].

Mental health checklist :

Mental Health Checklist (MHC) was developed with a view to provide a handy tool for identifying persons with poor mental health. It consisted of 11 items presented in a 4 point rating format. A numerical value of 1, 2, 3, 4 was assigned to the 4 response categories, *i.e.* for “Rarely”, “All time”, “Often” and “Always”, respectively. The total score varied from 11 to 44.

Emotional maturity scale:

To measure the level of emotional maturity and its various dimensions, emotional maturity scale by Singh and Bhargava (1971) was used. It had 48 questions and every question consisted of five options (i) Very much, (ii) Much, (iii) Undecided, (iv) Probably, (v) Never. These five possible modes of responses were being scored as 5, 4, 3, 2, 1, respectively and finally the total emotional maturity scale score was obtained from each respondents. The score within 50-80 was categorised as extremely stable, 81-88 as moderately stable, 89-106 as unstable and 107-240 was categorised as extremely unstable.

Statistical analysis:

Data were analysed by suitable statistical methods. The Chi-squared test was used to study the relationship between categorical variables. The level of significance was set at $p < 0.05$.

RESULTS AND DISCUSSION

Table 1 depicts the demographic profile of the

respondents who fall under different category of age groups, caste, academic stream, type of family with number of members in family, family monthly income and current place of residence.

Out of 120 respondents, 45 per cent were in the age group of 20-22 years whose mean weight was 51.29 kg with standard deviation of ± 8 and mean height was 1.56 mts with standard deviation of ± 0.0552 . 38 per cent of

the respondents were of age group of 22 – 24yrs with mean height, weigh and BMI of 53.69 kg (SD ± 8.61), 1.57 mts (SD ± 0.0775) and 21.73 (SD ± 4.0380), respectively. Rest 16 per cent were of above 24 yrs of age with mean height, weigh and BMI of 50.06 kg (SD ± 6.3979), 1.57 mts (SD ± 0.0417) and 20.421 (SD ± 2.0538), respectively.

Out of 120 respondents, 1.67 per cent of respondents

Table 1 : Demographic profile

General informations	F (n =120)	%
Gender		
Female	89	74.16
Male	31	25.83
Age		
20 – 22	54	45
22 – 24	46	38.33
>24	20	16.67
Caste		
General	64	53.33
SC/ST	40	33.33
OBC	16	13.33
Stream		
Arts	60	50
Science	54	45
Commerce	06	5
Type of family		
Nuclear	76	63.33
Joint	44	36.67
Number of family members		
3 -4	32	26.67
5- 7	54	45
>7	34	28.33
Family income per month		
< 15,000	38	31.67
15,000 – 25,000	18	15
> 25,000	64	53.33
Current residence		
With family	56	46.66
University Hostel	38	31.67
Off campus hostel	26	21.67

Table 2 : Average weight, height and BMI of the respondents in relation to age

Age	N	%	Weight		Height		BMI	
			Mean	S.D.	Mean	S.D.	Mean	S.D.
20 – 22 yrs.	54	45	51.2962	± 8.0039	1.5629	± 0.0552	20.9281	± 2.8649
22 – 24yrs.	46	38.33	53.6956	± 8.6151	1.5747	± 0.0775	21.7369	± 4.0380
>24 yrs.	20	16.67	50.06	± 6.3979	1.571	± 0.0417	20.421	± 2.0538
Total	120	100	51.9666	± 7.9893	1.5671	± 0.0617	21.142	± 3.2536

belonged to moderate underweight category and 13.33 per cent belonged to mild thinness group. 68.33 per cent of the respondents had normal physical health and 15 per cent were overweight. Only 1.67 per cent showed signs of pre-obesity.

Table 4 represents the status of mental health of the respondents which was categorised into 4 groups *i.e.* score less than 14 categorised as having very good mental health, score 15 -19 as having good mental health, score

20 – 23 as average and score 24 or above as having poor mental health.

The data from Table 5 reflects that among the 52 (43.33%) malnourished respondents only 5.83 per cent had very good mental health and 15.83 per cent had suffered from poor mental health condition. Among the rest 56.67 per cent of respondents majority enjoyed very good (10%) to good (20.83) mental health and 8.33 per cent suffered from poor mental health condition.

Table 3 : Distribution of respondents on the basis of BMI

Grade of malnutrition	F	%
Underweight		
<16.00 - Severe thinness	0	0
16.00 - 16.99 - Moderate thinness	02	1.67
17.00 - 18.49 - Mild thinness	16	13.33
18.50 - 24.99 - Normal range	82	68.33
≥25.00 – Overweight	18	15
25.00 - 29.99 - Pre-obese	02	1.67
Obese 30.00 - 34.99 - class I	0	0

The international classification of adult underweight, overweight and obesity according to BMI by WHO, http://apps.who.int/bmi/index.jsp?introPage=intro_3.html

Table 4 : Mental health status among the respondents

Mental health	N	%	Mean	SD	Min. score	Max. score
Very good	32	26.67	11.9375	±0.9979	11	13
Good	32	26.67	15.4375	±1.2093	14	16
Average	26	21.67	20	±1.0801	19	22
Poor	30	25	25.2	±2.6779	23	33
Total	120	100	17.9333	±5.3261	11	33

Table 5 : Association between mental health with BMI

BMI	Mental health				Total
	Very good (<14)	Good (14-18)	Average (19-22)	Poor (>23)	
Malnourished	07 (5.83%)	11 (9.16%)	15 (12.5%)	19 (15.83%)	52 (43.33%)
Normal	12 (10%)	25 (20.83%)	21 (17.5%)	10 (8.33%)	68 (56.67%)
Total	32 (26.66%)	32 (26.66%)	26 (21.67%)	30 (25%)	120 (100%)

$\chi^2 = 0.035557$, P value <0.05 is significant

Table 6 : Level of emotional maturity among adolescents

Dimensions		Good maturity (Score > 20)	Poor maturity (Score <20)	Total
Emotional stability	N (%)	72 (60%)	28 (40%)	120 (100%)
	Mean (SD)	15.86 (±2.14)	23.75 (±2.81)	19.01 (±4.58)
Emotional progression	N (%)	62 (51.67%)	58 (48.33%)	120 (100%)
	Mean (SD)	16.58 (±2.29)	24.72 (±4.22)	20.51 (±5.28)
Social adjustment	N (%)	74 (61.67%)	46 (38.33%)	120 (100%)
	Mean (SD)	15.86 (±2.27)	23.78 (±2.48)	18.91 (±4.51)
Personality integration	N (%)	86 (71.67%)	34 (28.33%)	120 (100%)
	Mean (SD)	13.95 (±3.22)	22.11 (±2.52)	16.51 (±4.34)
Independence	N (%)	96 (80%)	24 (20%)	120 (100%)
	Mean (SD)	13.62 (±2.85)	21.0 (±1.20)	15.1 (±3.95)

Table 7 : Distribution of respondents on the basis of emotional maturity

Dimensions	N	%	Mean	S.D.
Extremely stable (Below 84)	46	38.33	74.39	5.95
Moderately stable (85 – 94)	26	21.67	89.84	3.43
Unstable (95-114)	34	28.33	102.23	5.48
Extremely unstable (115 and above)	14	11.67	126.42	8.58
Total	120	100	91.7	17.99

Table 8 : Emotional maturity in relation to BMI

BMI	Emotional maturity			Total
	Good (<94)	Moderate (95-114)	Poor (115 and above)	
Malnourished	28 (23.33%)	20 (16.67%)	4 (3.33%)	52 (43.33%)
Normal	40 (33.33%)	18 (15%)	10 (8.33%)	68 (56.66%)
Total	68 (56.66%)	38 (31.67%)	14 (11.66%)	120 (100%)

$\chi^2 = 2.709$, P value <0.05 not significant

Significant association was found between BMI and mental health of the respondents.

Table 6 reveals various levels of emotional maturity dimensions with its prevalence in form of either poor maturity or good maturity. It was observed that in each of dimensions greater percentage of respondents were in good emotional maturity category when compared with other categories *i.e.* score more than equal to 20. Therefore it was concluded that majority of the adolescent girls had good emotional maturity.

Table 7 represents total emotional maturity score which has been categorised into 4 groups such as extremely stable (below 84), moderately stable (85 – 94), unstable (95 -114) and extremely unstable (115 and above). It was found that maximum percentage of students (38.33%) came under extremely stable category.

From Table 8 it was observed that among the respondents who were from normal physical category, maximum (33.33%) showed good emotional maturity. And the same phenomenon was also observed among the malnourished respondents. No significant association was found between emotional maturity and BMI.

Conclusion :

A significant association was found between the nutritional status of the respondents and their mental health status. It was observed that students with normal BMI had displayed more positive mental health status than those of under-nutrition status. Various psychiatric issues like anxiety, tension, restlessness, nervousness, loneliness, hopelessness, anger etc were more common among the undernourished students. Strategies might

include stress management programmes, university environment enabling relaxation and wellbeing, health-oriented courses, and the organization of studies and curricula with a focus on stress reduction.

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